

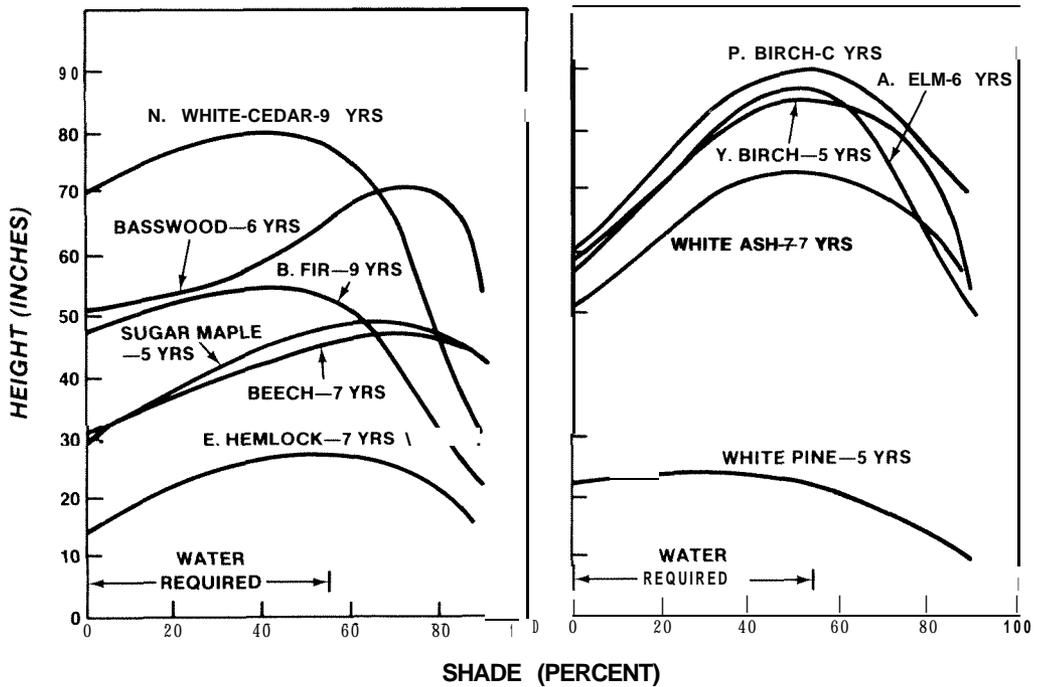


# NORTHERN HARDWOOD NOTES

## Relative Tolerance Of Hardwood And Associated Conifer Seedlings

"Tolerance" is an expression of the light requirements of a tree species.

The tolerance ratings most quoted today were compiled by F. S. Baker from a questionnaire sent to foresters in the mid-1940's. A weakness of these ratings is that they are a personal opinion based mostly on experience with large trees, and they lack a strong consensus. The most comprehensive study of light requirements of seedlings for the first few years after germination are those of K. T. Logan.<sup>1</sup> The graphs below (adapted from Logan), show what percent of lath shade different species grow tallest under, when grown from seed for several years. "Tolerant" species are on the left, "less tolerant" (Baker's groupings) on the right.



<sup>1</sup>At the Petawawa Forest Experiment Station in central Ontario.

Note that almost all species "tolerant" and "less tolerant" grew tallest in 40-80 percent shade. Even "tolerants" require some light for survival. The Lake States have frequent, hot, dry periods during which seedlings need some shade; supplemental watering was also essential for up to 55 percent shade in Logan's study. Sugar maple is always present-more because of its low germination temperature requirements (**34°** F) than because of its tolerance (see *Optimum Germination Temperatures for Northern Hardwoods* Note 3.03).

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